SACO-LOWELL WORSTED MACHINERY

AS BUILT AT LOWELL, MASS.

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1921

M. Raymond

TEXTILE MACHINERY

WITH SPECIAL REFERENCE TO THE

WORSTED MACHINERY

BUILT BY SACO-LOWELL SHOPS
AT LOWELL, MASSACHUSETTS

SACO-LOWELL SHOPS

Executive Offices
77 FRANKLIN STREET · BOSTON, MASS.

Shops
BIDDEFORD, MAINE · LOWELL, MASS.
NEWTON UPPER FALLS, MASS.

Southern Agent
ROGERS W. DAVIS · CHARLOTTE, N. C.

Worsted Machinery

MODERN Worsted Machinery is so nearly standard that the deciding factor is not so often the general design as it is a matter of details and service. The improvements and conveniences and the question of repairs and accessibility of the makers have much weight with the prospective buyer. It is much more satisfactory to meet face to face the men who build the machinery than to do business through a middleman or by correspondence. These among other factors have contributed to our success.

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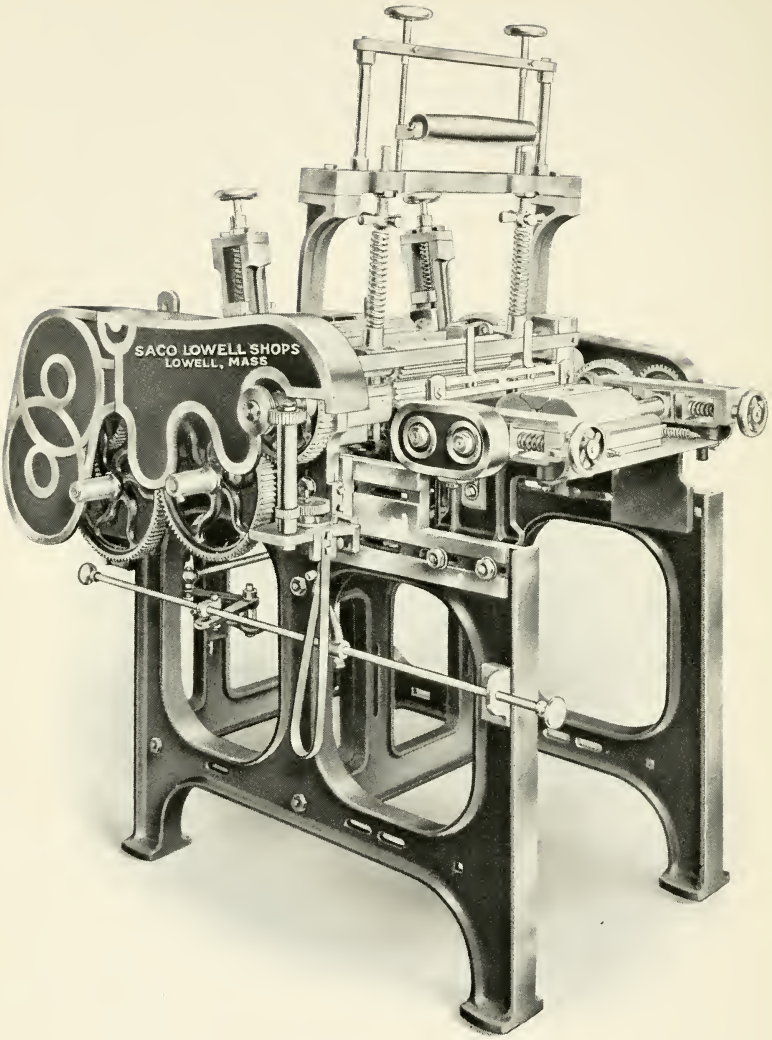


SINGLE CAN GILL BOX

Single Can Gill Box

THESE machines are used after the card and are equipped with spring or lever weighting, apron above or below and high speed faller motion or nonlocking device. Gill screws are made single or double pitch. Saddle boxes bored from solid. Standard length of faller $16\frac{1}{2}''$, $18\frac{3}{16}''$, $20\frac{3}{16}''$ and $22\frac{5}{8}''$. Made with single top and bottom front rolls and single top back rolls and either single or double back bottom rolls.

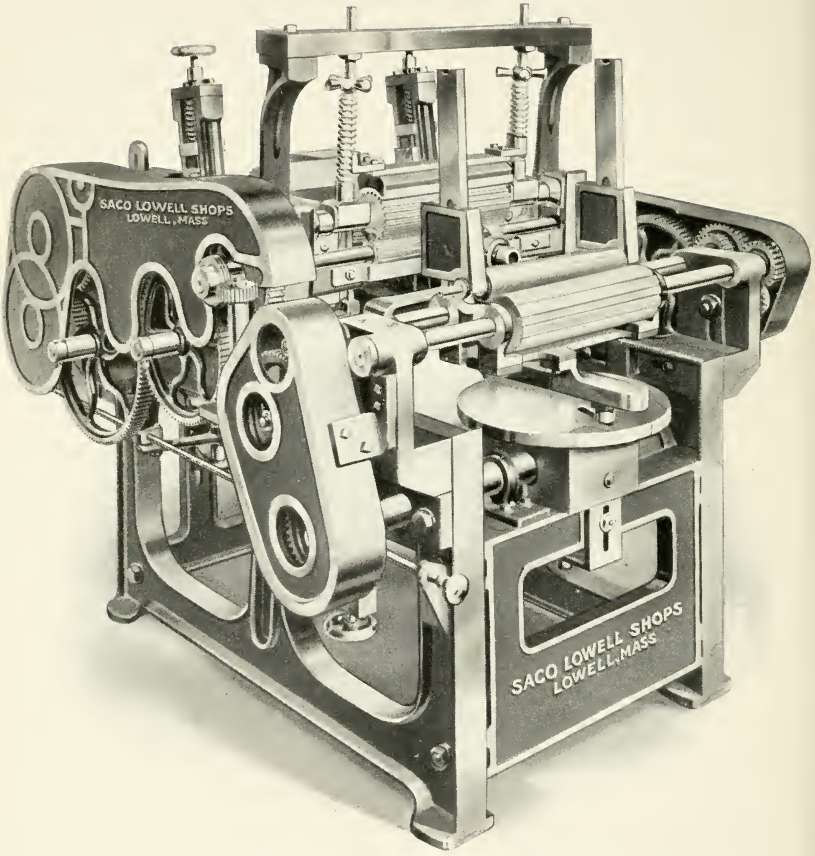
We also build the following double Can Gill Boxes, which are similar in construction to the single can, except that they are equipped with double boss calender rolls.

Double Can with single top and bottom front and back rolls and $18\frac{3}{16}''$ fallers.

Double Can with single top and bottom front rolls, single top and double bottom back rolls and $18\frac{3}{16}''$ fallers.

Double Can with tandem screws, single and double pitch, fallers $18\frac{3}{16}''$ long, single top and bottom front and back rolls.

Double Can for back washer single top and bottom front and back rolls and $22\frac{5}{8}''$ fallers.



SINGLE BALLING GILL BOXES

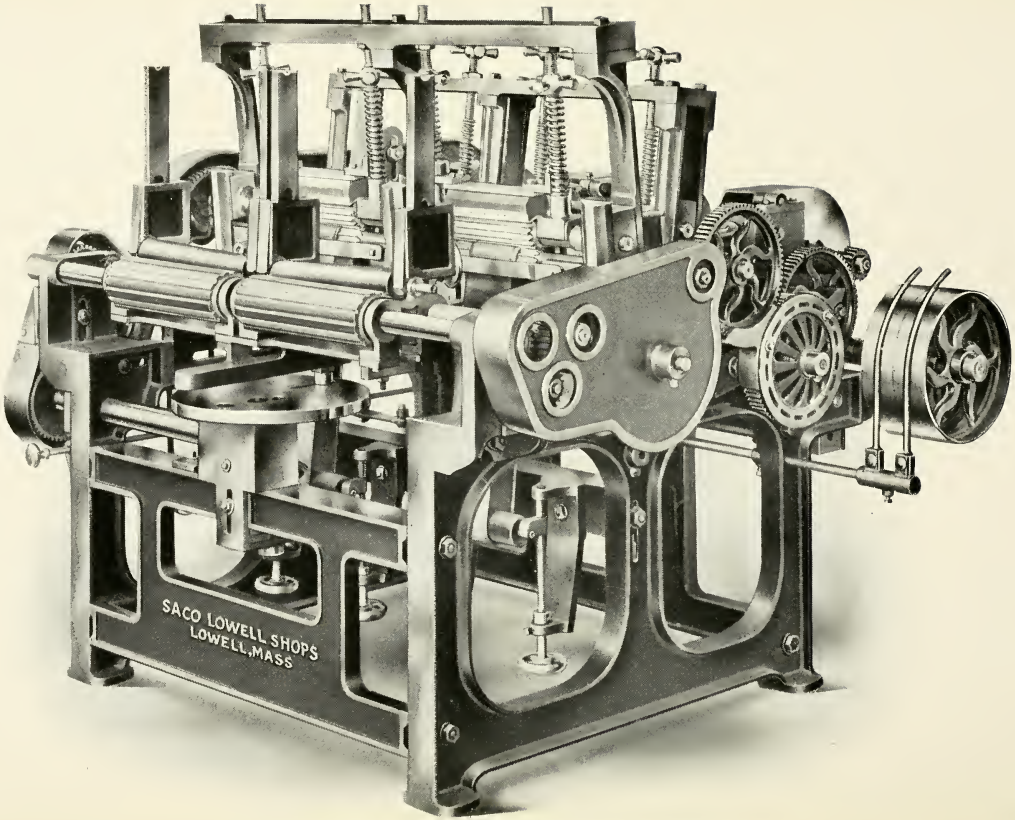
Single and Double Balling Gill Boxes

THESE machines are made spring or lever weighted, apron above or below and are equipped with high speed faller motion or non-locking device. Gill screws are made single or double thread with saddle boxes bored from solid. Single top and bottom front and back rolls. Standard length of fallers $16\frac{1}{2}''$, $18\frac{3}{16}''$, $20\frac{3}{16}''$ and $22\frac{5}{8}''$.

We also build the following Double Balling Gill Boxes, which are similar in construction to the single baller shown in cut, except that they have a double balling head.

Regular Double Balling Gill Box.

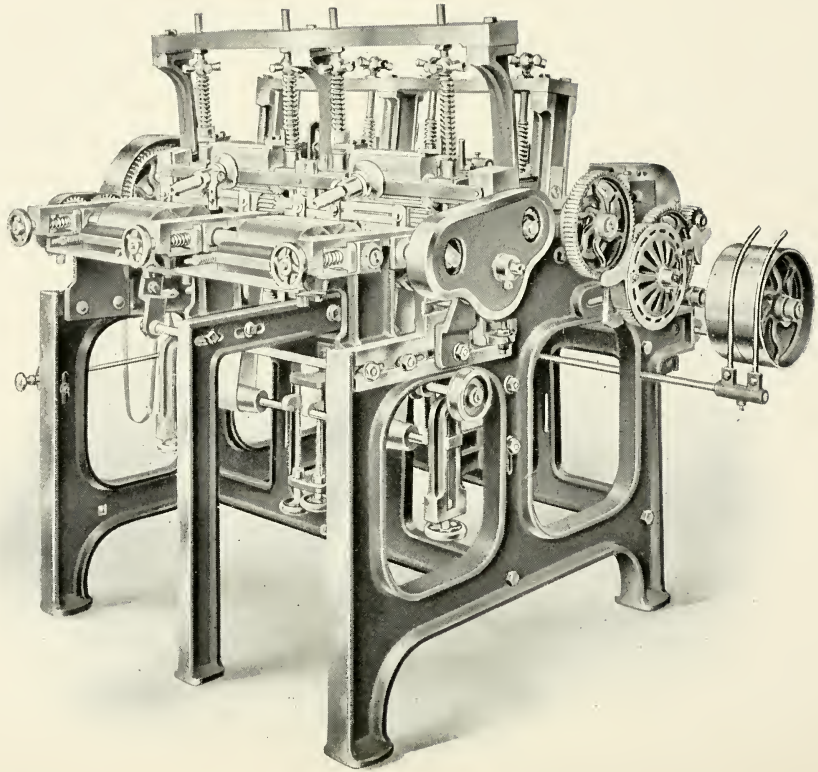
Double Balling with 7″ Setover for Back Washer.



TWO HEAD SINGLE BALLING GILL BOX

Two Head Single Balling Gill Box

SOMETIMES used as a mixing or blending box, and also used in front of the back washer. It contains two sets of fallers running parallel side by side. Standard length of faller $14\frac{5}{16}''$ and $17\frac{1}{2}''$. Apron below. Equipped with our high speed faller motion or non-locking device. Gill screws single or double thread. Saddle boxes bored from solid. Single top and bottom front and back rolls.

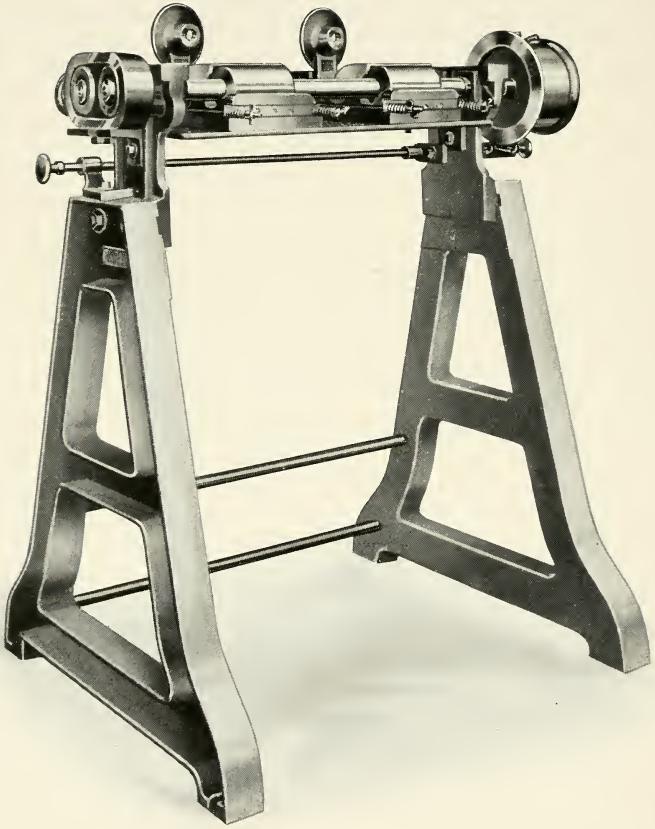


TWO HEAD SINGLE CAN GILL BOX

Two or Four Head Single Can Gill Box

TWO head machine is used as a mixing or blending box, also in combing department. The four head machine is used principally as a mixing box.

The machines are arranged with fallers running parallel side by side. Standard length of faller for the two head single can gill box $14\frac{3}{16}''$ and $17\frac{1}{2}''$ and for the four head single can gill box $13\frac{7}{16}''$. Apron below. Equipped with our high speed faller motion or non-locking device. Gill screws single or double pitch. Saddle boxes bored from solid. Single top and bottom front and back rolls.

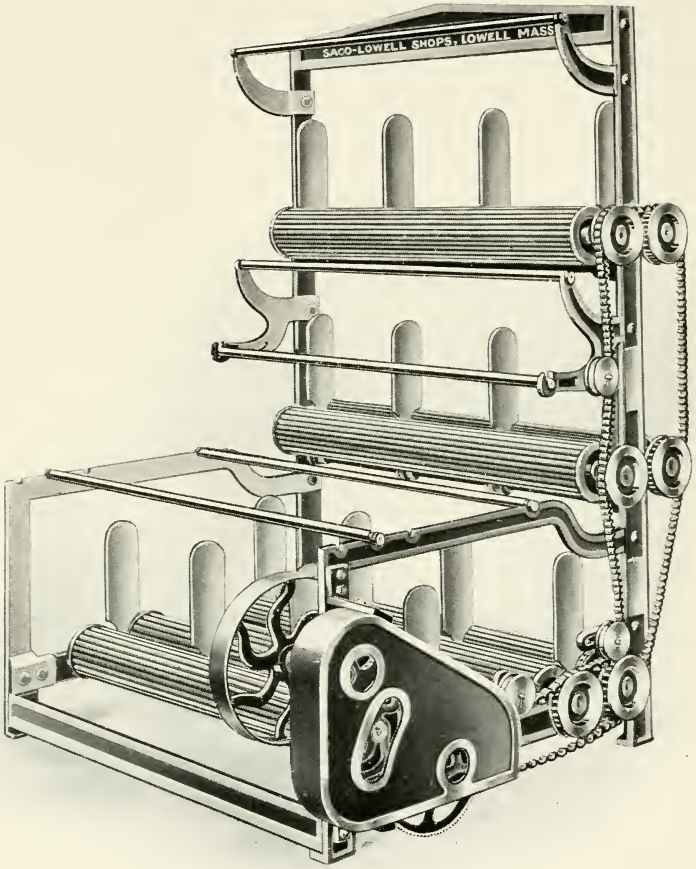


SLUBBING WINDER

Slubbing Winder

AFTER tops are dyed in skein, the skeins are put on a cone-shaped revolving hood, which sets back of slubbing winder, and then delivered to this machine and run into a can.

Built with single or double boss calender rolls, hard iron bosses $3\frac{1}{2}''$ diameter, $5''$ or $8''$ face. Driving pulleys $7''$ by $2''$.

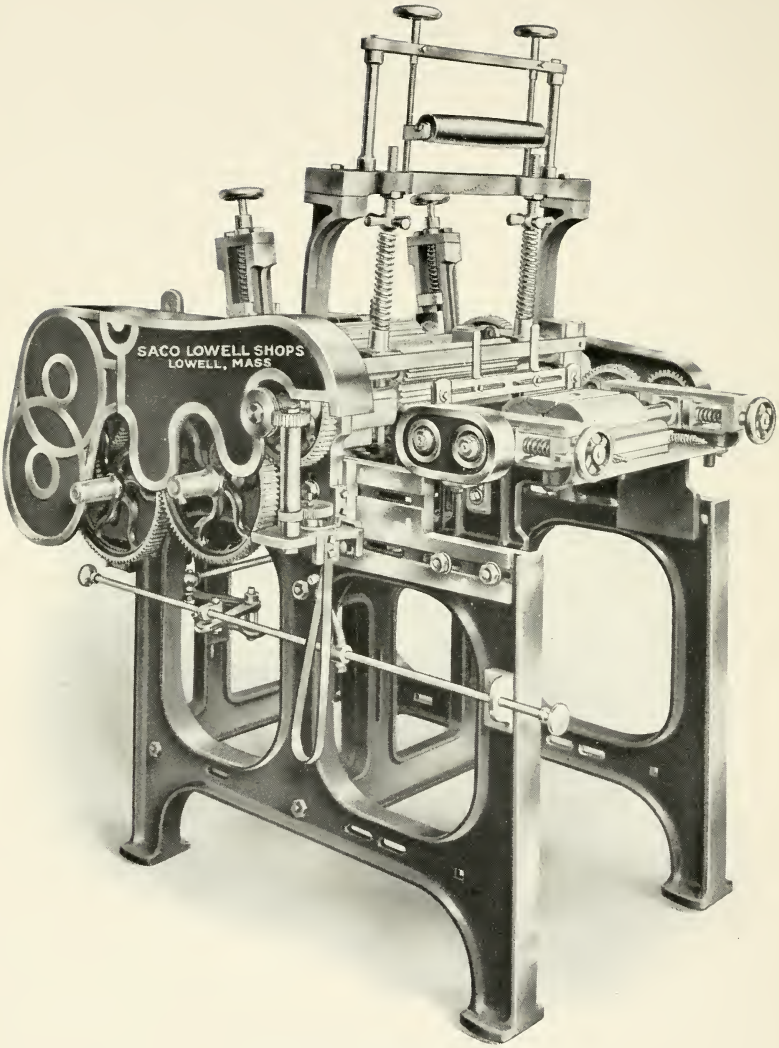


TWELVE BALL REVOLVING CREEL

Revolving Creel

ARRANGED for nine or twelve balls, zinc or wood rolls, 34″ or 44″ long, and usually is placed back of the finishing gill box in the first operation of finishing drawing. This enables you to unwind the slubbing from the outside of ball instead of drawing from the center.

We also build a flat deck creel for 12 balls, which some consider a more convenient creel for the operator, but which takes more floor space; also a 28 ball flat deck with brass rolls for back washer.

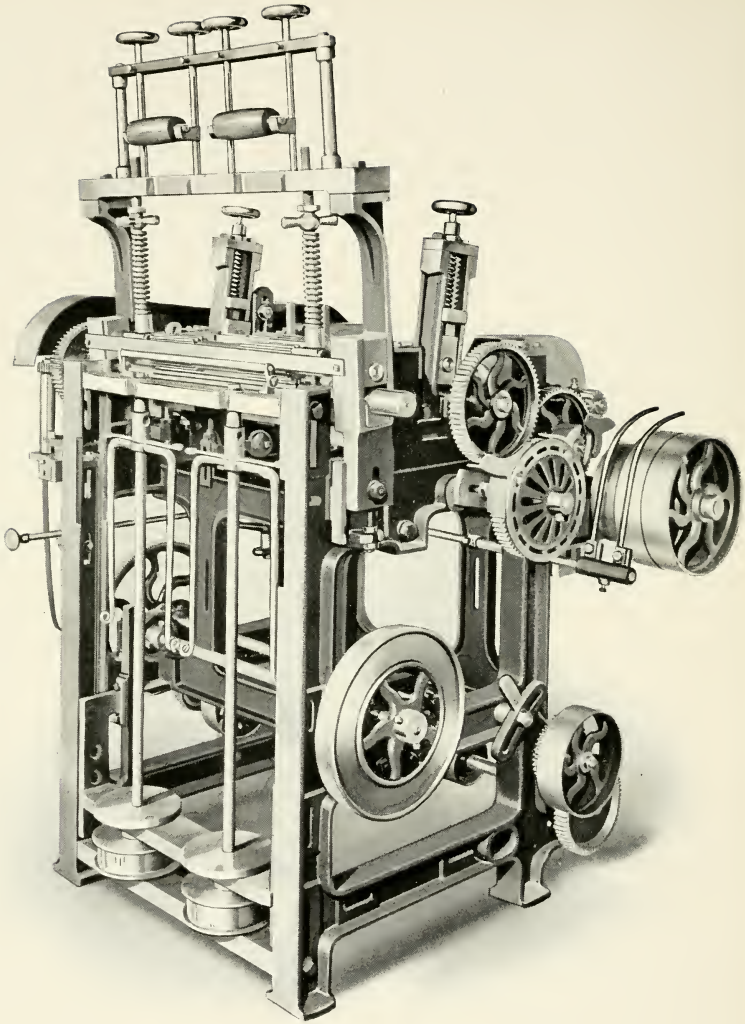


SINGLE CAN GILL BOX

Single Can Gill Box

THESE machines are used in the first operation of finishing drawing and are equipped with spring weighting, apron above or below, and high speed faller motion or non-locking device. Gill screws are made single or double pitch. Saddle boxes bored from solid. Standard length of fallers $16\frac{1}{2}''$. $18\frac{3}{16}''$, $20\frac{3}{16}$ and $22\frac{5}{8}''$. Made with single top and bottom front rolls and single top back rolls and either single or double back bottom rolls.

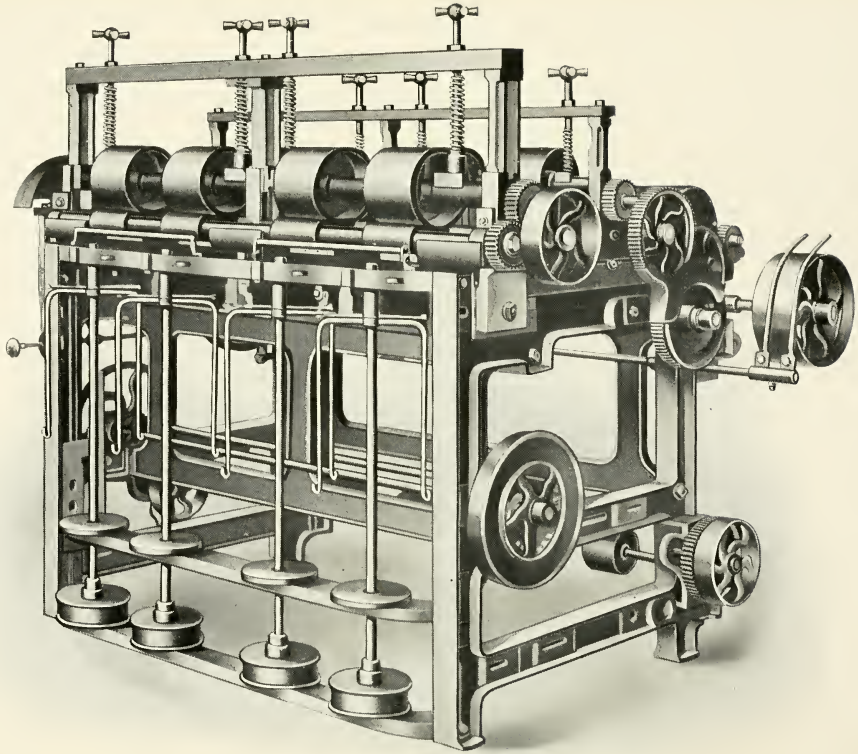
We also build Double Can Gill Boxes, which are similar in construction to the single can, except that they are equipped with double boss calender rolls.



TWO SPINDLE GILL BOX

Two Spindle Gill Box

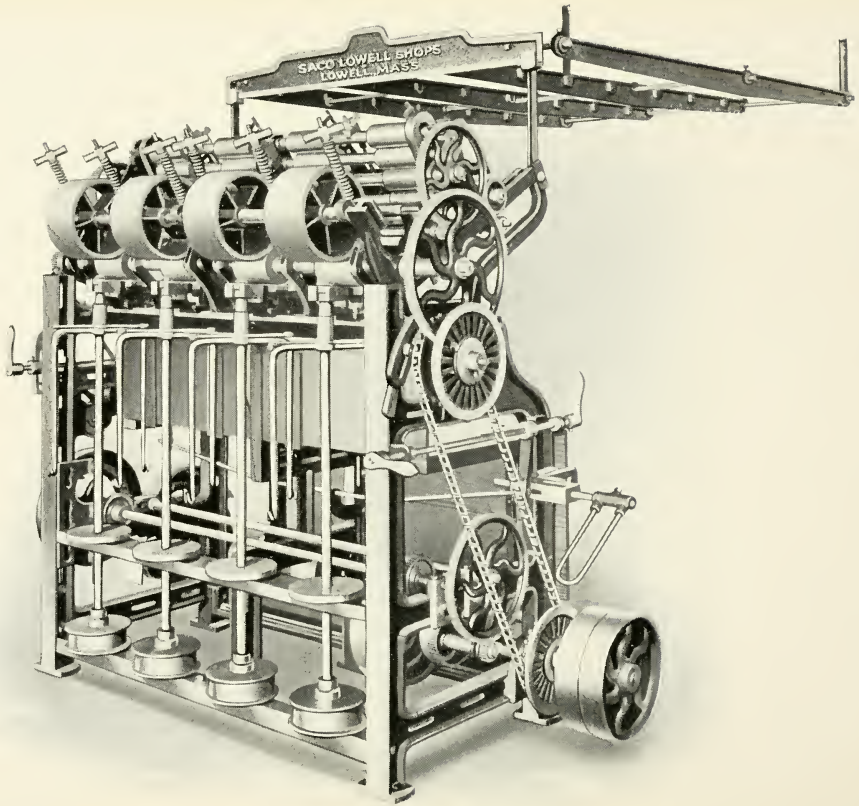
ARRANGED for 14″ traverse by 9″ diameter end spindle bobbin, $12\frac{3}{8}$″ pitch, and contains our high speed faller motion or non-locking device, single or double pitch screws, standard length of faller $22\frac{5}{8}$″. Equipped with single line top and bottom front and back rolls, or arranged with single line top and bottom front and single top double back bottom rolls. Spindle rail arranged with latch or collar.



FOUR SPINDLE GILL BOXES

Four Spindle Gill Box

THIS machine is arranged for 14″ traverse by 9″ diameter end spindle bobbin, $12\frac{3}{8}$″ pitch, and contains our high speed faller motion or non-locking device, single or double pitch screws, two sets of fallers running parallel side by side, standard length of faller $22\frac{5}{8}$″. Double line low front rolls with leather covered top roll, double line low back rolls with leather covered top roll. Spring weighted, twine and twist belt drive.



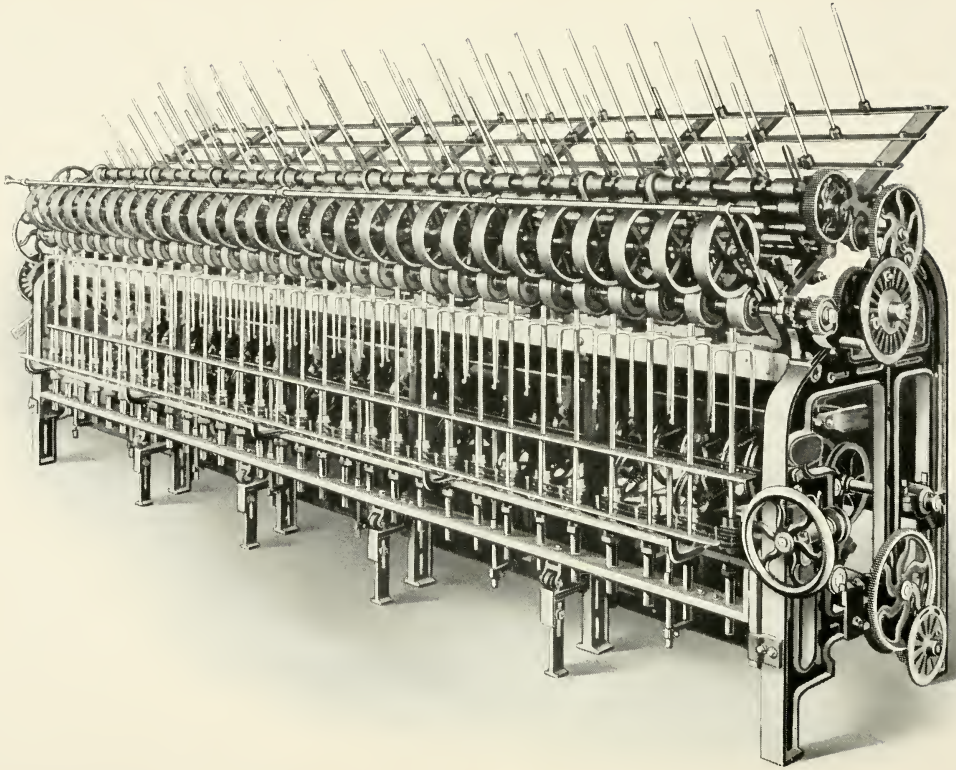
FOUR SPINDLE DRAWING BOX

Four Spindle Drawing Box

THESE machines are made with two, four, six, eight, ten or twelve spindles per machine and are arranged with bobbins from 14″ traverse by 9″ diameter end to bobbins 10″ traverse by 5″ or 6″ diameter end.

Our low front rolls are cast iron bosses made out of hard iron properly tested, top front rolls wood or iron bosses covered single or double hard. Two lines carrier rolls and four lines back rolls, one line fluted.

Usually equipped with swing creels, as shown in cut; also our three wheel knock-off motion, but will furnish candlestick stop motion if desired.



DANDY ROVER SINGLE RAIL TYPE

Dandy Rover Single Rail Type

THE cut illustrates our high speed machine, used as second finishers, reducers and rovers. These machines are equipped with Rabbeth spindle, tension drive, double whirl, spindle bases are supported by a heavily constructed ladder rail, operated with the usual segment gear and worm. The frame is 6″ lower than the two rail type machine, thereby locating the creel in a position most convenient for the operative. Twine and twist are arranged with sprocket chain drive or belt if preferred.

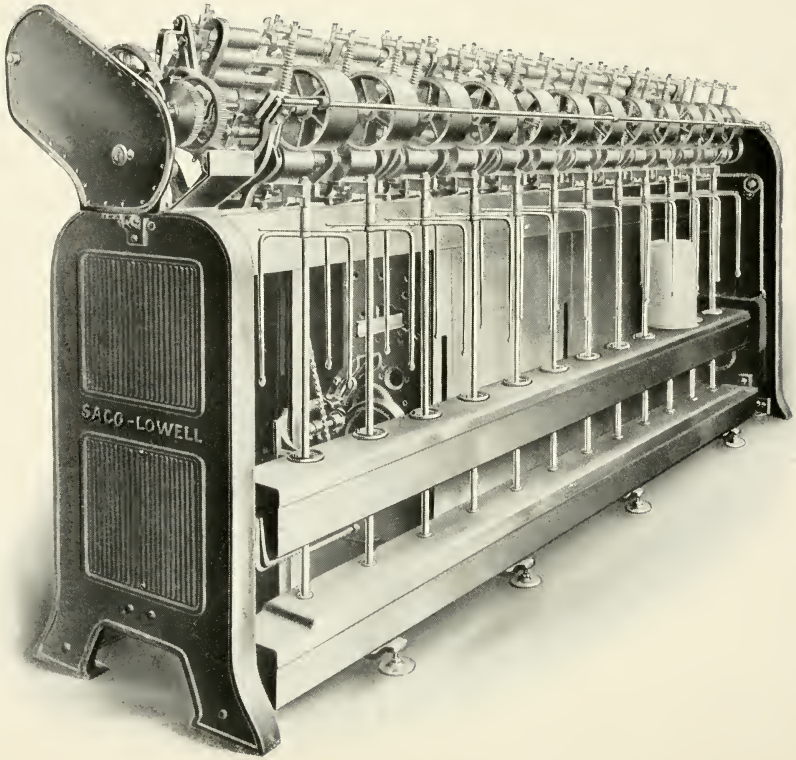
Low front rolls are cast iron bosses made out of hard iron properly tested, top front rolls wood or iron bosses covered single or double hard. Two rows of carriers and wood tumblers and three lines of back rolls.

These machines are equipped with swing creel or wrought iron strip creel.

The use of these machines on most classes of work will enable you to increase your production at least 25 per cent over the two rail type.

Two Rail Type Dandy Rover

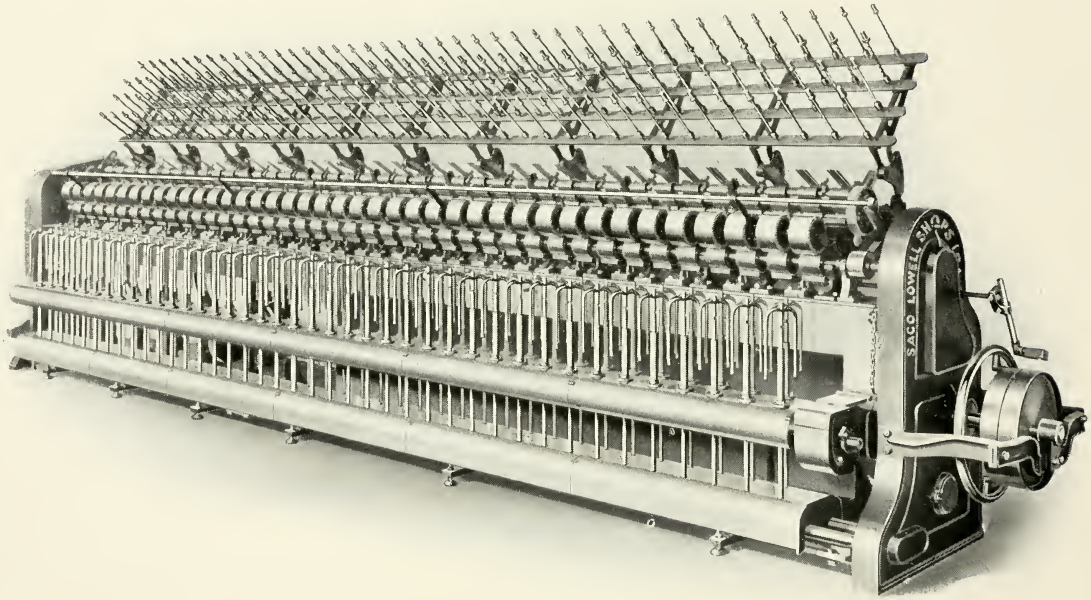
THIS machine is used as second finisher, reducer and rover and is similar to the Rabbeth spindle machine as described, with the exception that the spindle is supported by a brass bolster and brass step or iron lubricating bolster if preferred. Our high speed rover has gradually superseded this type.



CONE FIRST FINISHER

Cone First Finisher

WE build a cone first finisher, twelve spindles, $12\frac{3}{8}$″ pitch, for 14″ by 9″ spindle bobbin, for carpet wools, 5″ diameter low front rolls and 9″ diameter top front rolls, iron bosses covered double hard. We also build a cone reducer for this purpose, using sixty spindles, for 10″ traverse by 5″ diameter end spindle bobbin, 5″ diameter low front roll, 9″ diameter top front rolls, iron bosses covered double hard.



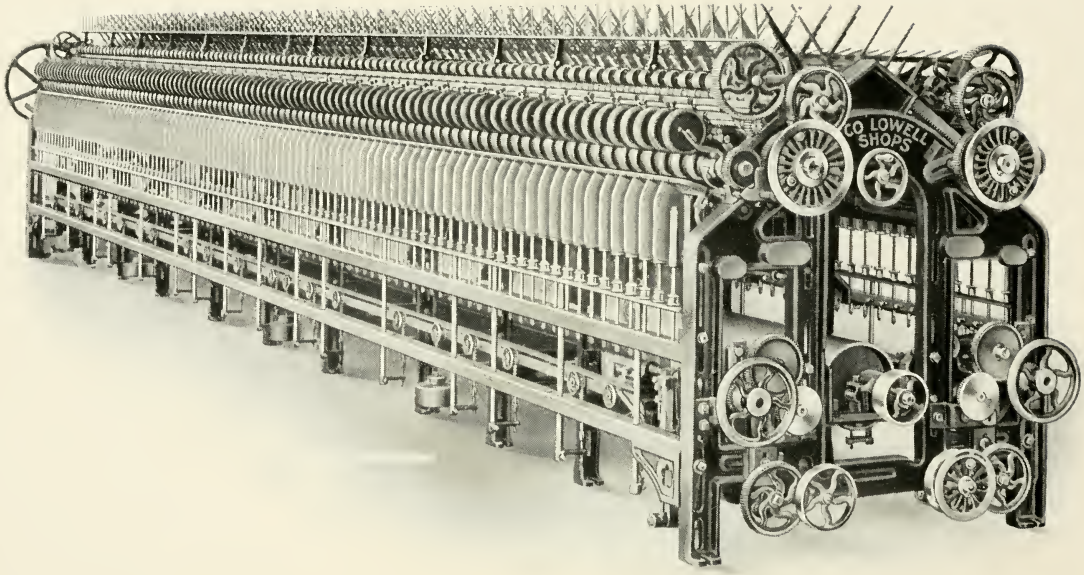
CONE ROVER

Cone Rover

THESE machines are largely used in the last three operations of a set of open drawing and would include cone second finishers, 12″ traverse by 6″ diameter end bobbin, cone reducers 10″ traverse by 5″ diameter end bobbin, cone rovers 8″ traverse by 4″ diameter end bobbin or 6″ traverse by $3\frac{1}{2}$″ diameter end bobbin.

We are able to furnish upright skewer creels or the usual wrought iron strip creel or swing creel.

The machines are usually equipped with the bell mouth flyer. The second finisher is equipped with spoon back stop motion.



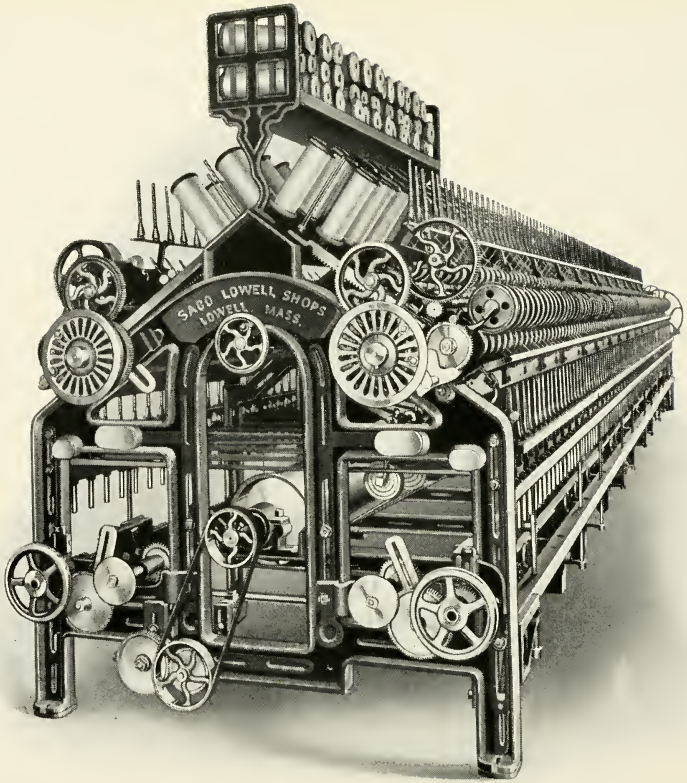
CAP SPINNING FRAME

Cap, Ring and Flyer Spinning

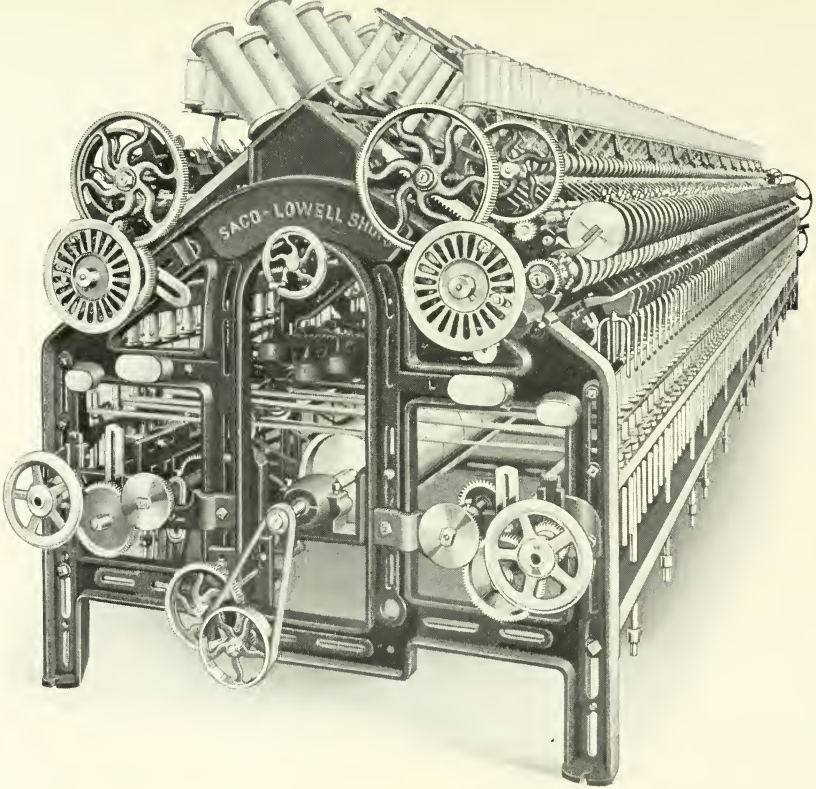
MADE with frame ends 4′ or 5′ wide. Low front rolls are hard cast iron with clutch connections. Top front rolls are wood or iron bosses covered single or double hard. We cover our own rolls and use only the highest quality leather. Three rows steel carrier rolls and wood tumblers. Fluted steel low back rolls. Heavy single or double Scaife's builder. Twine and twist sprocket chain drive, using Morse silent chain or belt drive if preferred. Tape driven spindles with our tin tension pulley with oilless bearings. Any kind of standard cap, ring or flyer.

Our method of making caps has resulted in such a satisfactory product that we have had to increase the size of our cap department many times during the last few years. We use an improved method of casting the heads and have yet to hear of any working loose.

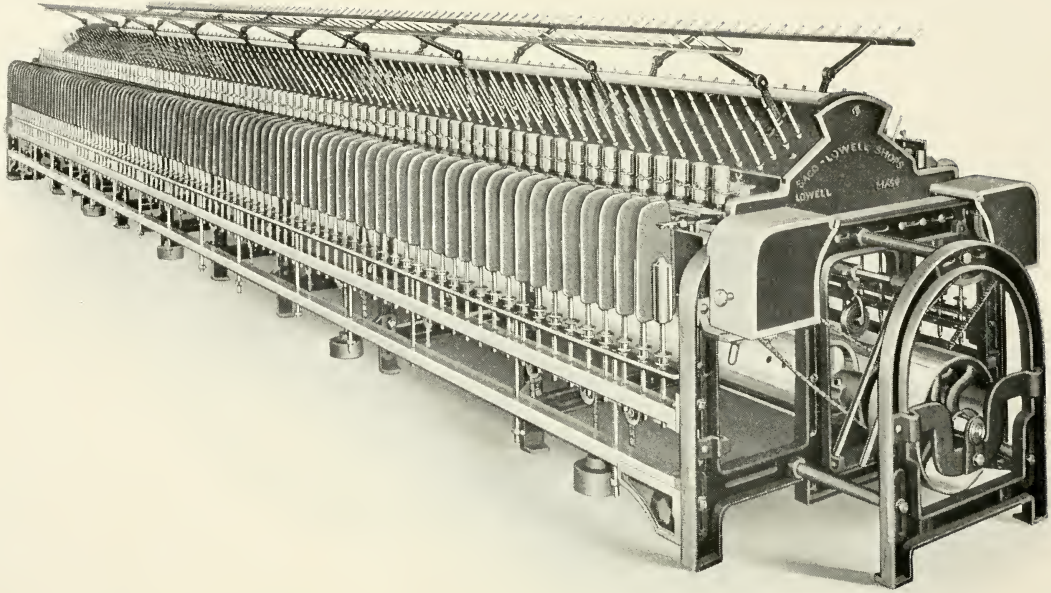
By using cut gearing we eliminate much noise, resulting also in a smoother running frame requiring less power.



RING SPINNING FRAME



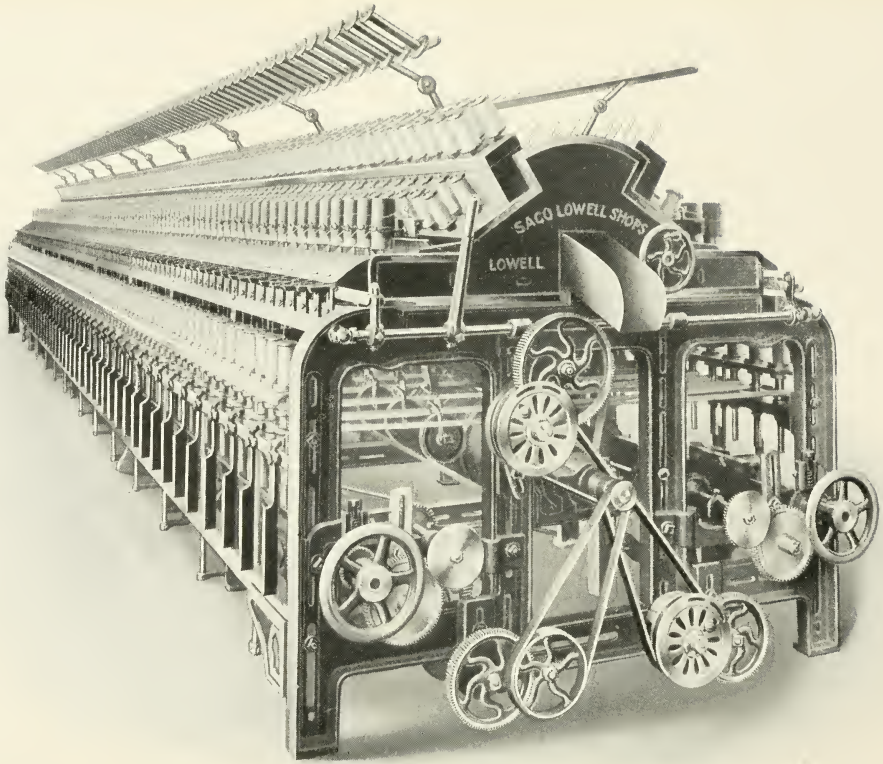
FLYER SPINNING FRAME



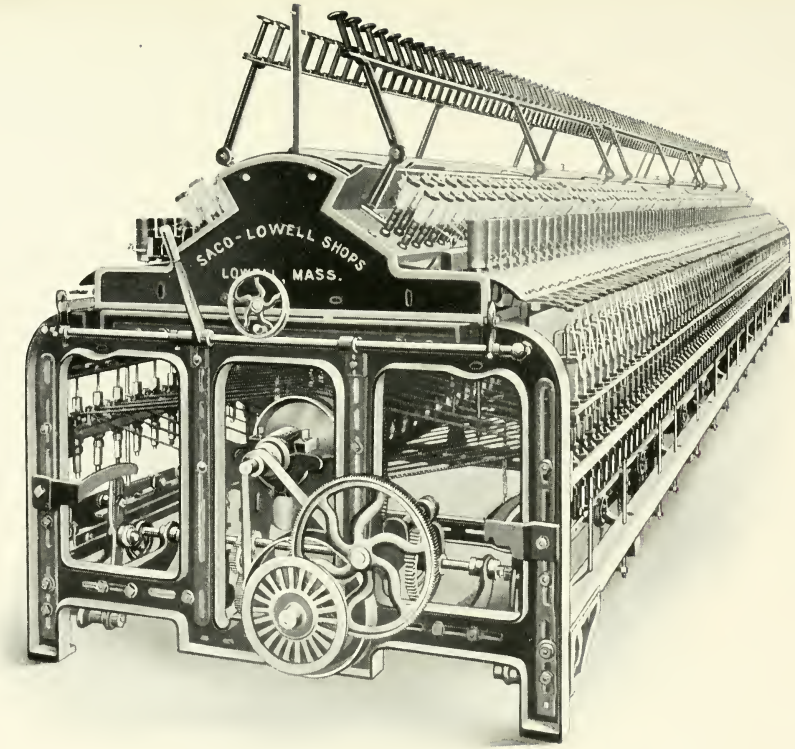
TWO PLY CAP WORSTED TWISTER

Two Ply Worsted Twister, Cap, Ring or Flyer

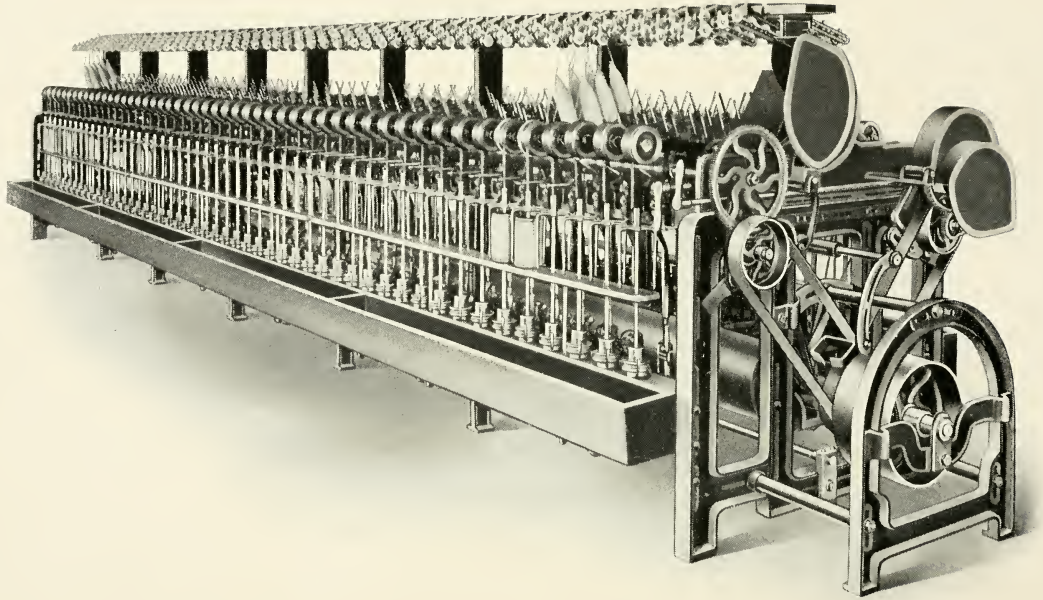
MACHINES are built with frame ends 4′ or 5′ wide, twine and twist belt or chain with ordinary locker or bobbin remover. Scaife's builder motion, single or double. Stationary hand wheel builder screw traversing in steel tube. Trap motion of the swing frame type, that is, tips forward when an end breaks. Creel arranged for single or double head bobbins, cops or cheeses. Spindles tape tension drive. Traverse bar made of iron. Pigtail guides adjustable, arranged with check nuts. Release motion operated with hand lever to prevent ends from trapping when starting up the machine.



TWO PLY RING WORSTED TWISTER



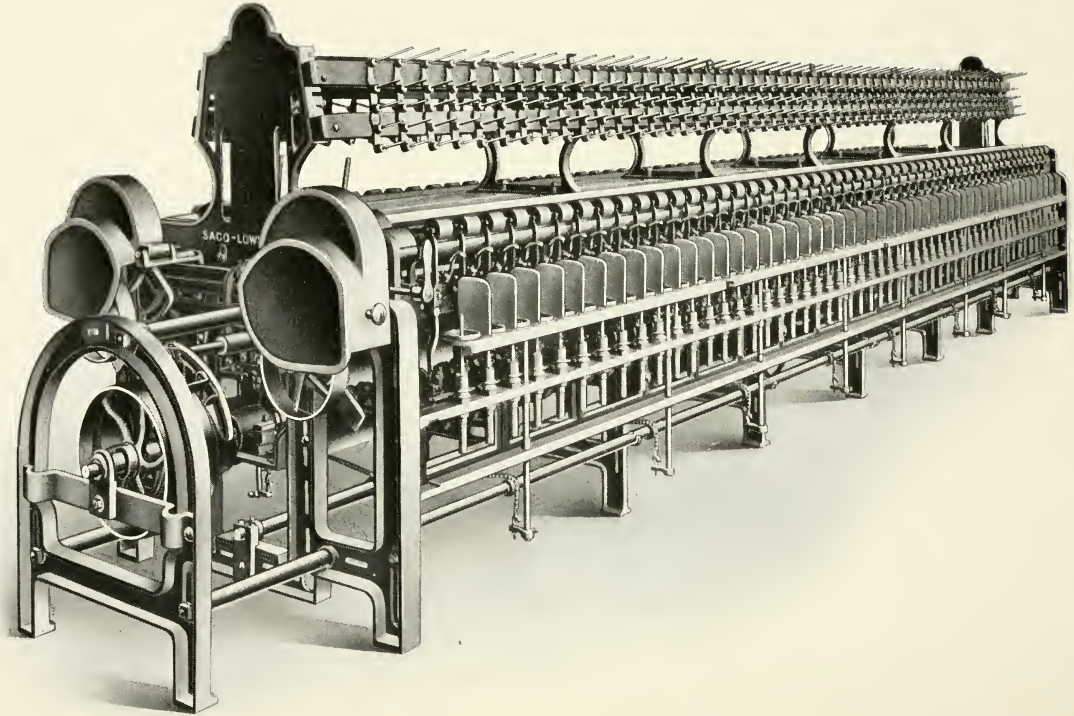
TWO PLY FLYER WORSTED TWISTER



UNIVERSAL FLYER TRAP TWISTER

Ring or Flyer Universal Trap Twisters or Redoublers

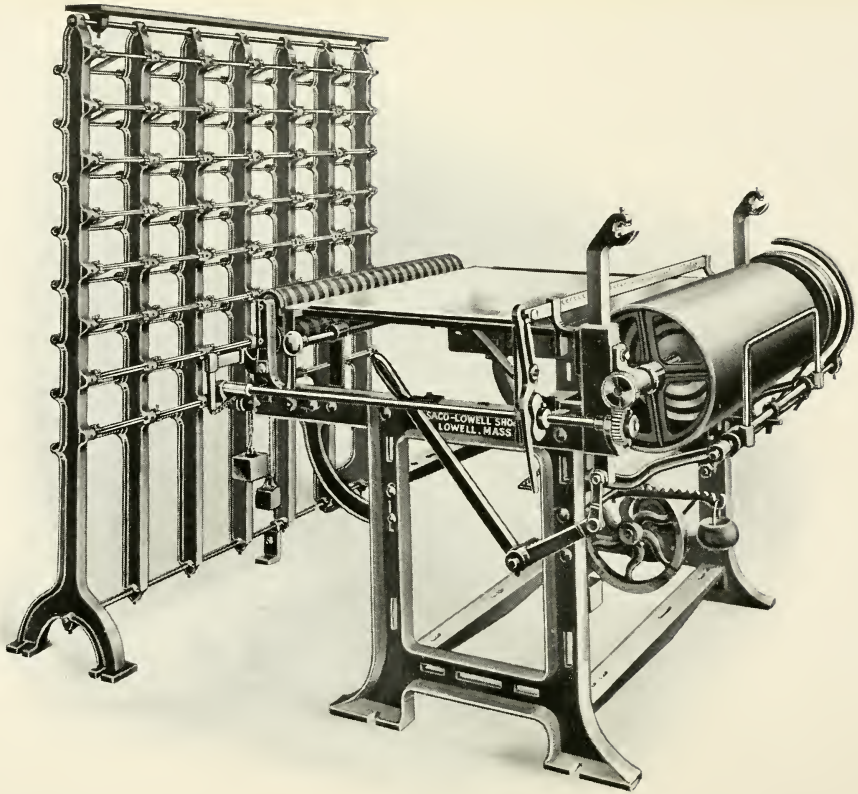
FRAME end 48″ wide with bobbin remover for empty bobbins if style of creel will permit. Mangle wheel builder; creel arranged to draw from single or double head bobbins, cops or cheeses. The front roll gear is a change, and high or low twist can be obtained. Stop motion is operated from a cam roll driven at a constant speed from the cylinder. Cam rolls and front rolls are hardened and ground. Trap is provided with proper adjustments to keep it in perfect condition. Delivery of yarn and revolving of spindle cease simultaneously upon breaking of yarn either in front or behind rolls. This trap is furnished for three to six ends, according to pitch of machine. Top roll bracket is adjustable, also bracket that holds poteye which guides the yarn directly over the spindle. All stands in beam, including guide pulley lever stand in spindle rails, are set in milled slots, so whatever adjustments are made in or out, up or down, the position of these stands is maintained directly behind the spindle. When trap is knocked off it can be put back in running position without any possibility of locking. The speed of ring rail or lifter plate can be altered quickly and has a wide range. All spur gears are used. Traverse motion is applied between detector plate and rolls. With independent twist on each side if desired.



UNIVERSAL RING TRAP TWISTER

Universal Ring Trap Twister

THE Universal Ring Trap Twister is fully described on page 39.



JACK SPOOLER

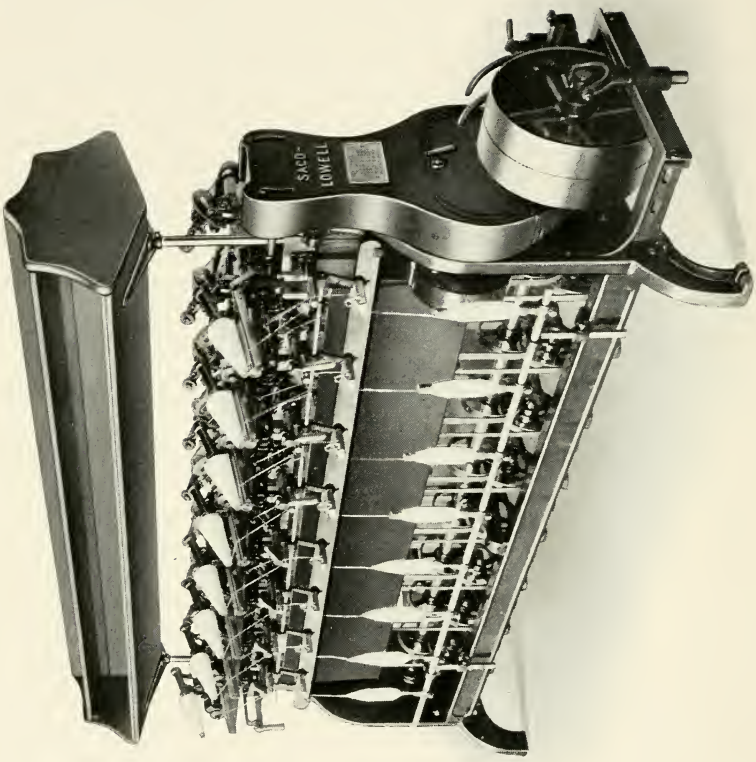
Jack Spoolers

MADE to conform to any size jack spool. Drum is a tin cylinder, leather covered. Back rolls are wood, leather covered. Front and back traverse bars are controlled by chain and weight, not springs, and drilled for any number of ends. Spool slide stands are broached for spool slides which are planed to fit. In addition to spool slides acting as tension on your spool, we provide a lever and weight which can be regulated to increase or decrease pressure on spool. Lever is attached to a rod which connects spool slides with links which guide the slide as spool fills.

Balance wheel is driven from drum by grooved pulleys. No overrunning of ends. With our front traverse motion you get a uniform traverse, which means an even spool. Thirty-six inches or less, if required, between center of drum to center of back rolls allow increased space over other spoolers for inspecting purposes.

Reversible inspection board is provided, painted black on one side and white on the other for different colored yarns. Ships from front and side.

Creels are made for double head spools, single and double head bobbins, cops or cheeses.


SACO-
LOWELL

The Camless Cone Winder

OUR Improved Cone Winder is built in gangs of sixteen spindles, eight on a side, requiring a floor space 8′ 3″ long and 30″ wide. Each spindle is independent and is equipped with a simple and effective stop motion, tension and slub catching device of improved design. All parts are interchangeable. The traverse gears and all traverse connections are made of high grade steel. The thread guide is made of chilled metal and mounted to reciprocate on a ground "drill rod." The oscillating arms are made in two sections and can be arranged to vary the length of the traverse without applying additional parts. The cone arbor is automatic in action, which simplifies the action of starting and doffing, thereby increasing the efficiency of the machine and operative.

The success which the Camless Winder has attained is due to the following facts, based on the successful operation of over 90,000 spindles, and by reason of our recent improvements in design and construction these original features are more practical and pronounced.

1st. The Elimination of the cams and all parts incidental thereto, which simplifies construction, thus saving in cost of repairs and operating expenses.

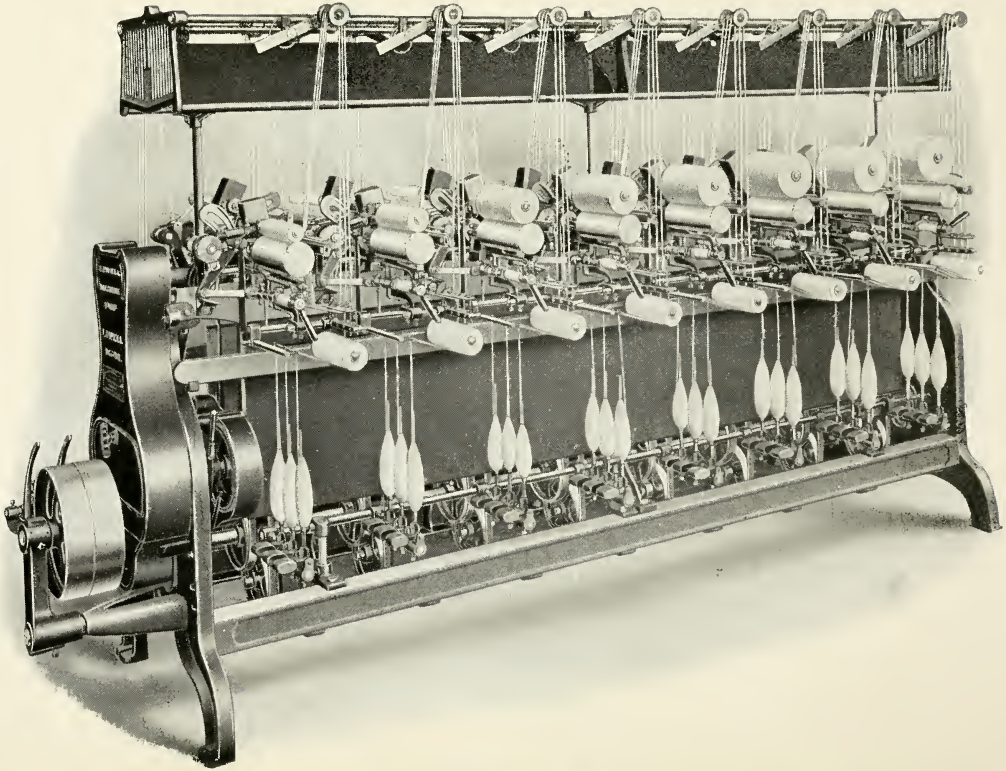
2d. The Simplicity of threading and doffing arrangement, which increases the capacity of the operative, consequently decreasing the cost of winding per pound.

3d. The Automatic means for winding every package according to a correct design. Duplicate work from every spindle being positively assured, all defects that necessitate Rewinding being obviated.

4th. The Compact Construction and the Large Product per spindle, which insures an appreciable saving in floor space and lessens the first cost of installation.

5th. Cones or Parallel Tubes of any required traverse can be wound on this machine. The change of traverse is easily effected Without Cost, as no extra parts are required.

6th. The Uniform Speed, which permits permanent adjustment of tension and stop motion and makes possible a fixed relationship between the machine and the operative.

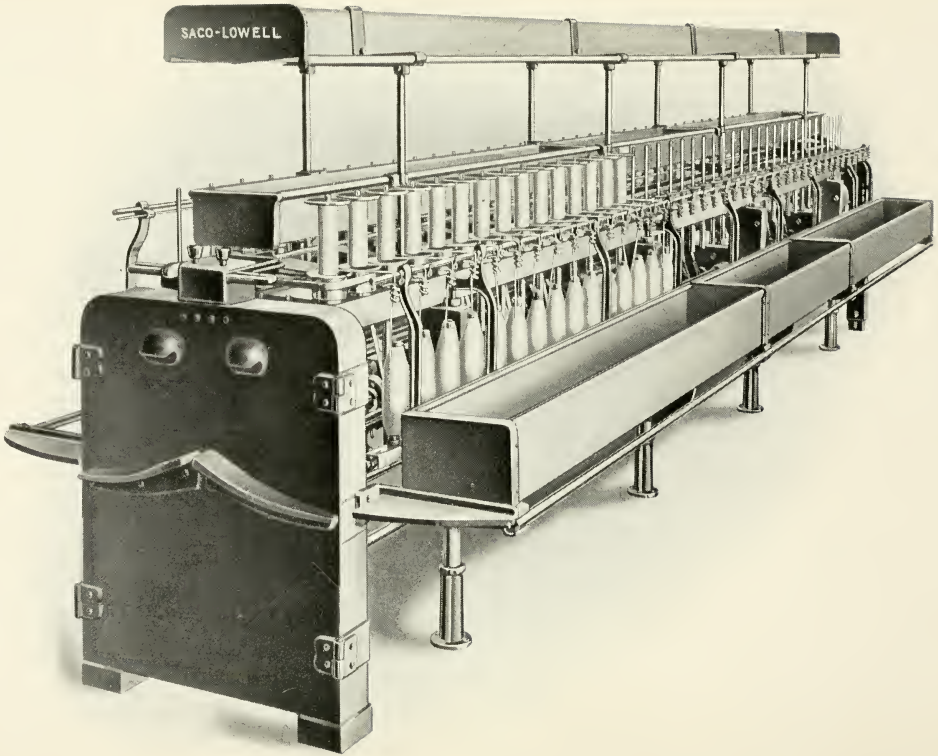


CAMLESS DOUBLING WINDER

The Camless Doubler

THE Camless Doubler embodies that simplicity of construction, ease of running and obtains those desirable results which have always been so characteristic of the Camless Winder.

The stop motion is quick and positive, enabling the operative to tie on the single end and insuring small knots and reducing to a minimum the amount of waste.



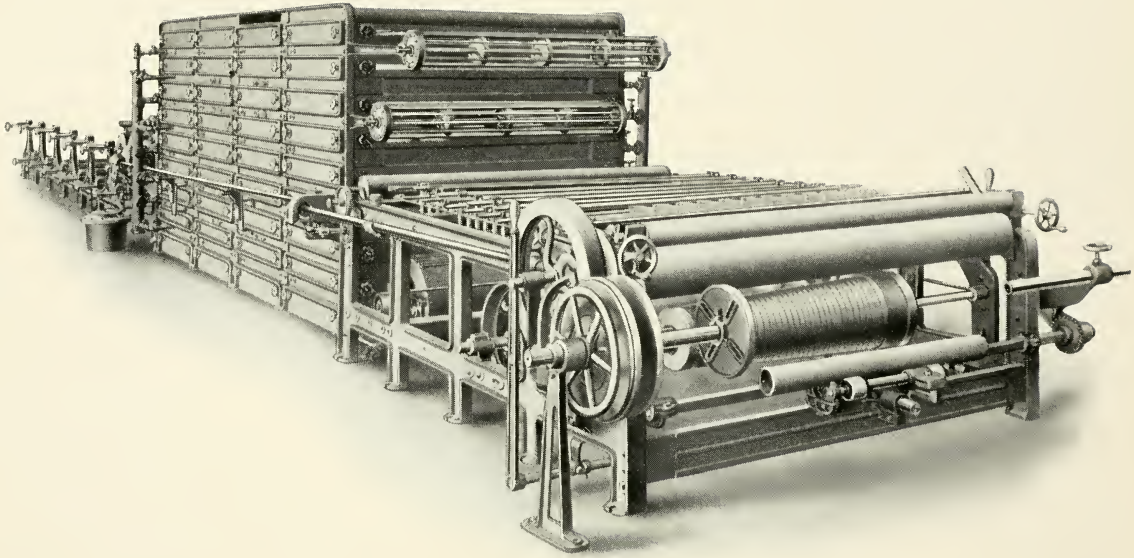
UPRIGHT SPOOLER

Upright Spooler

THIS model comprises a spooler equipped with Saco-Lowell thread guides, tension devices and skewers for properly holding supply bobbins, which are carried on a traversing rack, keeping the supply package always in constant relation to the tension device and thread guides. The method of holding supply bobbin is varied to suit the type of package. This model of spooler is also equipped with side shelves suitable for holding portable side boxes, or with permanent steel boxes.

Our new spooler has gained a high reputation for the workmanship on the machine itself and for the well wound spools produced.

An important extra feature which has been applied to this new spooler is the tape spindle drive. This we thoroughly recommend after careful trial and experiments, believing it to be a more satisfactory drive than the regular band.



HOT AIR SLASHER

Hot Air Slasher

WE illustrate a hot air slasher having a drying chamber of four sections. Chambers are built two, three, four and five sections long, containing six, seven or eight coils of pipe, as may be desired. A chamber of four sections seven coils high contains about 2500 feet of 1″ pipe. Sections may be added to the chamber in the mill at any time.

The warp in traversing the upper portion of the chamber passes around four brass-ribbed guide rolls, two at each end, which may be placed outside of the chamber, as shown, or with only the upper pair outside. The warp, having become partially dried, then passes around several smooth guide rolls, traveling between each coil of steam circulating pipe before passing out to the head end. The chambers are substantially built, with pipe and fittings threaded and tapped in our shop to insure better construction than is obtainable with commercial fittings.

This type of slasher is very popular on woolen or worsted yarn and in combination with parts of our cylinder slasher is used for sizing carpet warps.

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